

WE CLAIM:

1. A solid block warewashing detergent composition comprising:
 - (a) about 10 to 80 wt% of Na_2CO_3 ;
 - 5 (b) an alkali metal silicate having a $\text{M}_2\text{O}:\text{SiO}_2$ ratio of about 1:1 to 1:5; and
 - (c) an effective amount of an organic phosphonate hardness sequestering agent;wherein the block comprises non-hydrated sodium carbonate and a binding agent comprising hydrated sodium carbonate and organic phosphonate, and wherein the block is substantially free of a second source of alkalinity.
- 10 2. The method of claim 1 wherein the alkali metal silicate has a water content of about 5 to 25 wt%.
3. The composition of claim 1 wherein the block comprises about 0.1 to 2.0
- 15 moles of water per mole of sodium carbonate
4. The composition of claim 1 wherein the hydrated sodium carbonate comprises a monohydrate and the detergent comprises about 1.5 to 15 wt% of a surfactant composition comprising an anionic surfactant, a nonionic polymeric
- 20 surfactant or mixtures thereof.
5. The block of claim 1 wherein the blended mass is extruded to form the block.
6. The composition of claim 1 wherein the block has a mass greater than about
- 25 10 gms.
7. The block of claim 1 wherein the organic phosphonate sequestrant comprises a potassium phosphonate and is used in an amount of about 0.5 to 20 wt%.

8. The block of claim 7 wherein the sequestrant also comprises an inorganic condensed phosphate.

5 9. The block of claim 8 wherein the sequestrant comprises about 3 to 20 wt% of the organic phosphonate and additionally comprises a tripolyphosphate sequestrant.

10. The block of claim 1 wherein there are less than about 1.7 moles of water per mole of sodium carbonate.

10 11. The block of claim 1 wherein the solid product is substantially free of NaOH.

12. The block of claim 1 wherein the silicate comprises $\text{Na}_2\text{O}:\text{SiO}_2$ of about 1:1.5 to 1:2.5.
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13. The block of claim 1 wherein the block comprises about 10 to 30 wt% of the alkali metal silicate.

14. A method of cleaning ware with a metal protecting anticorrosion alkaline
20 detergent, the method comprising:

- 25 (a) contacting ware with an alkaline solid block warewashing detergent comprising about 20 to 60 wt% of Na_2CO_3 ; about 10 to 30 wt% of an alkali metal silicate having an $\text{M}_2\text{O}:\text{SiO}_2$ ratio of about 1:1 to 1:5; and about 0.1 to 20 wt% of an organic phosphonate hardness sequestering agent; the block comprising nonhydrated sodium carbonate and a binding agent comprising hydrated sodium carbonate and an organic phosphonate; wherein the block is substantially free of a second source of alkalinity, creating washed ware; and
- (b) rinsing the washed ware.

15. The method of claim 14 wherein the concentration of the detergent in the aqueous alkaline detergent comprises about 100 parts of detergent to about 2500 parts of detergent per each one million parts by weight of the aqueous detergent.

5 16. The method of claim 15 wherein the alkali metal silicate has a water content of about 5 to 25 wt%.

10 17. The method of claim 15 wherein the alkali metal silicate has a $M_2O:SiO_2$ of about 1:1.5 to about 1:2.5.

18. The method of claim 14 wherein the detergent comprises about 15 to about 30 wt% of the alkali metal silicate having an $M_2O:SiO_2$ ratio of about 1:2 and a water content of about 15 to 20 wt%.